BRIDGE INSPECTION REPORT

	WO	CC	WE	PD
BAM	0	0	0	0

Status: Released

Ver Date 10/18/2013
Printed on: 10/18/2013

Agency: Washington State
Program Mgr: Harvey L. Coffman

Bridge No. 5/434 **Carrying** I-5 **Intersecting** TERRAIN

Bridge Name I-5 OVER OLD N-N RAMP **Route On** 00005 **Mile Post** 132.26

Structure ID 0006145C **Route Under** **Mile Post**

Inspector's Signature GFC Cert# B1163 Co-Inspector's Signature BTP

6		Structural Adqcy	(657)	N		Pier/Abut/Protect	(679)	1960		Year Built	(332)
8		Deck Geometry	(658)	N		Scour	(680)	1990		Year Rebuilt	(336)
9		Underclearance	(659)	1		Bridge Rails	(684)	1 65		Oper Rating	(551)
5		Operating Level	(660)	1		Transition	(685)	1 38		Inv Rating	(554)
8		Alignment Adqcy	(661)	1		Guardrails	(686)	A		Open Close	(293)
9		WaterwayAdqcy	(662)	1		Terminals	(687)	9999		Vert Over Deck	(370)
6		Deck Overall	(663)	N		Revise Rating	(688)	0000		Vert Under	(374)
6		Superstructure	(671)			Photos Flag	(691)	N		Vert Und Code	(378)
0		Number Utilities	(675)			Soundings Flag	(693)	3.00		Asphalt Depth	(W01)
7		Substructure	(676)			Measure Clearance	(694)		0.00	Design Curb Ht	(W02)
9		Chan/Protection	(677)							Bridge Rail Ht	(W08)
9		Culvert	(678)					60		Speed Limit	(W03)

Inspections Performed:

IT	NT	HRS	Date	Rep Type
Y	24	1.0	8/27/2013	Routine
				Fract Crit
				UW
				Special
				Interim
				UWI
				Equipment
				Damage
				Safety
				Short Span
				In Depth

Total: 1.0

Suff Rating: 88.42 | 86.42

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	23,279	SF	23,279	0	0	0
35	Concrete Deck Soffit	23,279	SF	23,279	0	0	0
105	Concrete Box Girder	194	LF	193	0	1	0
205	Concrete Pile/Column	20	EA	19	1	0	0
215	Concrete Abutment	243	LF	243	0	0	0
221	Concrete Foundation	2	EA	2	0	0	0
310	Elastomeric Bearing	36	EA	32	0	0	4
321	Concrete Roadway Approach Slab	3,000	SF	2,974	24	2	0
331	Concrete Bridge Railing	460	LF	452	0	0	8
404	Compression Seal / Concrete Header	240	LF	0	240	0	0
801	AC Overlay with Waterproofing Membrane	9,977	SF	9,977	0	0	0
802	Thin Polymer Overlay	13,302	SF	13,301	1	0	0

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Structure ID 0006145C **Route Under** **Mile Post**

Notes

0	Bridge is oriented south to north. No traffic under bridge in 2013 due to construction.
12	Deck is covered with two types of overlays. See Elements 801 and 802.
35	Transverse water-stained hairline cracks in the overhangs. Vertical hairline cracks in the edge of deck.
105	Hairline vertical and diagonal cracks in the webs. Transverse and longitudinal cracks in the soffit, some are leaching. Several reinforcing bars exposed in the soffit due to lack of cover. Span 3 has a 9" diameter x 2" deep spall north of Column 3G.
205	Areas of exposed tie wire up to 2" long on several columns. Column 2A has a few 1/2" deep gouges near groundline, on the north side up to 12" x 4". Column 2F has two exposed tie wires exposed up to 6 ft. due to lack of cover. Column 3D has patches on the east face. Column 3F has two exposed tie wires exposed up to 4 ft. due to lack of cover.
215	Both abutments have hairline vertical cracks, a few are leaching. Debris on top of the abutments. See photo 1. REPAIR 13630.
221	South abutment footing is exposed up to 18" over a 20 ft. length. North abutment footing is exposed up to 1 ft. over a 30 ft. length.
310	Four elastomeric bearings are walking towards midspan leaving as little as half of the pad in contact with the upper and lower bearing surfaces. See photos 16 and 17. REPAIR #13635. Bearing displacements: Bearing 1M 4E 4I 4Q 2013 6" 6" 3.5" 3" 2011 4"-5"
321	Approach slabs visible on southbound lanes only. Transverse cracks near the abutments and longitudinal cracks between westmost two lanes. North approach slab has 24 sq. ft. of patching. South abutment joint southbound lanes has a 3' x 1' x 2" spall in adjacent approach slab. See photo #21. REPAIR 13636
331	Several traffic scrapes and small impact spalls. West rail near the north abutment has an 8 ft. section that has been removed, presumed for construction purposes. See photo 12. There is temporary concrete barrier on the shoulder that provides traffic protection. Median concrete barrier between NB & SB lanes has impact damage at north abutment and Pier 3, with concrete spalls up to 4' x 2'. See photos #23 and #24. REPAIR #13638 Measure rail height in 2015 inspection.
404	Joint seals at abutments appear to have been repaired several times, with some areas showing recent repairs. Joint configuration is not fully understood, so all joints at both abutments are considered one line of compression seal. See photos #15, #20, #21, #25, #26 and #27. REPAIR 13634 verified. South abutment joint northbound lanes has two 8" diameter spalls in header. See photo #22. REPAIR 13637
801	ACP overlay in northbound lanes only.
802	Thin polymer overlay in southbound lanes only is worn to aggregate in wheel lines with longitudinal and transverse cracks. South abutment, center lane there is a 1 sq. ft. patch along the compression seal header.

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Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified
13630	3	B	Clean the debris and concrete out of the girder seat area. (Repair description revised in 2007 by JPD)	6/23/1999		
13634	1	B	In the southbound Lanes 1 and 2 at Pier 1, remove loose material and failing patches and patch back; similar to repair done in Lanes 3 and 4. See repair photos. (rewritten in 2011 - WDS)	10/19/2009	8/11/2011	8/27/2013
13635	1	B	At the south abutment, Bearing 1M has walked out 6" to the north and needs to be reset back into the original position. At north abutment, bearings the following bearings have walked to the south as follows: E - 6", I - 3.5", Q - 3". (Updated 8/27/13 by GFC/BTP) Contact Bridge Preservation Office (G. Scroggins 360-570-2557) to schedule development of repair details.	10/19/2009		
13636	1	B	South abutment joint southbound lanes has a 3' x 1' x 2" spall in adjcacent approach slab. Remove loose material and patch.	8/27/2013		
13637	2	B	South abutment joint northbound lanes. Patch two 8" diameter spalls in header.	8/27/2013		
13638	1	B	Patch median concrete barrier with impact damage and spalling at north abutment and Pier 3.	8/27/2013		

Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	8/27/2013		24	1.0	GFC	B1163	BTP	

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
NBI STRUCTURE INVENTORY AND APPRAISAL REPORT (ENGLISH UNITS)

Ver Date 10/18/2013
Printed on: 10/18/2013

IDENTIFICATION

(1)	STATE NAME - WASHINGTON	530
(8)	STRUCTURE NUMBER	# 0006145C0000000
(5)	INVENTORY ROUTE (ON/UNDER) - On	1 1 1 00005
(2)	HIGHWAY AGENCY DISTRICT - OL Region	03
(3)	COUNTY CODE 53 - Pierce County	(4) PLACE CODE 00000
(6)	FEATURES INTERSECTED	TERRAIN
(7)	FACILITY CARRIED	I-5
(9)	LOCATION	5.0 N JCT SR 512
(11)	MILEPOINT	132.36
(12)	BASE HIGHWAY NETWORK - Part of network	1
(13)	LRS INV ROUTE AND SUB ROUTE	000000000500
(16)	LATITUDE	47 Deg 13 Min 49.05 Sec
(17)	LONGITUDE	122 Deg 27 Min 39.58 Sec
(98)	BORDER BRIDGE STATE CODE - Not a border bridge	
(99)	BORDER BRIDGE STRUCTURE NO. - Not a border bridge	

STRUCTURE TYPE AND MATERIAL

(43)	STRUCTURE TYPE MAIN: MATERIAL - Concrete continuous	
	DESIGN - Box beam/girder - multiple	205
(44)	STRUCTURE TYPE APPR: MATERIAL - Other	
	DESIGN - Other	000
(45)	NO. OF SPANS IN MAIN UNIT	3
(46)	NO. OF APPROACH SPANS	0
(107)	DECK STRUCT TYPE - Conc. CIP	1
(108)	WEARING SURFACE / PROTECTIVE SYSTEM:	
(A)	TYPE OF WEARING SURFACE - LMC or similar	3
(B)	TYPE OF MEMBRANE - None	0
(C)	TYPE OF DECK PROTECTION - None	0

AGE AND SERVICE

(27)	YEAR BUILT	1960
(106)	YEAR RECONSTRUCTED	1990
(42)	TYPE OF SERVICE ON - Highway	1
	UNDER - Other	0
(28)	LANES: ON STRUCTURE 7	UNDER STRUCTURE 0
(29)	AVERAGE DAILY TRAFFIC	123543
(30)	YEAR OF ADT 2010	(109) TRUCK ADT 8%
(19)	BYPASS, DETOUR LENGTH	1 mi

GEOMETRIC DATA

(48)	LENGTH OF MAXIMUM SPAN	78 ft
(49)	STRUCTURE LENGTH	194 ft
(50)	CURB OR SIDEWALK: LEFT 0.0 ft	RIGHT 0.0 ft
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	120.0 ft
(52)	DECK WIDTH OUT TO OUT	121.7 ft
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	108 ft
(33)	BRIDGE MEDIAN - Closed median non-m	3
(34)	SKEW 99 Deg	(35) STRUCTURE FLARED No 0
(10)	INVENTORY ROUTE MIN VERT CLEAR	99 ft 99 in
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	65 ft 06 in
(53)	MIN VERT CLEAR OVER BRIDGE RDW	99 ft 99 in
(54)	MIN VERT UNDERCLEAR	0 ft 00 in
(55)	MIN LAT UNDERCLEAR RT	0.0 ft
(56)	MIN LAT UNDERCLEAR LT	0.0 ft

NAVIGATION DATA

(38)	NAVIGATION CONTROL - Not applicable	N
(111)	PIER PROTECTION - Not Applicable	
(39)	NAVIGATION VERTICAL CLEARANCE	000 ft
(116)	VERT-LIFT BRIDGE NAV MIN VERT CLR	
(40)	NAVIGATION HORIZONTAL CLR	0000 ft

WSBIS DATA

BRIDGE NUMBER	5/434
BRIDGE NAME	I-5 OVER OLD N-N RAMP
CUSTODIAN	Washington State
CROSSING DESC	I-5 OVER OLD N-N RAMP
CROSSING KEY	00005 05 13226 14 M Y
SUFFICIENCY RATING	86.42 Not SD or FO

CLASSIFICATION

(112)	NBIS BRIDGE LENGTH	Y
(104)	HIGHWAY SYSTEM - On the NHS	1
(26)	FUNCTIONAL CLASS - Principal Arterial - I/S	11
(100)	DEFENSE HIGHWAY - Is an Interstate STRAHNET route	1
(101)	PARALLEL STRUCTURE - Not a parallel bridge	N
(102)	DIRECTION OF TRAFFIC - 2-way traffic	2
(103)	TEMPORARY STRUCTURE - Not Applicable	
(105)	FEDERAL LANDS HIGHWAY - Not Applicable	0
(110)	DESIGNATED NATIONAL NETWORK - Part of network	1
(20)	TOLL - Non-toll structure	3
(21)	MAINTAIN - State Highway Agency	1
(22)	OWNER - State Highway Agency	1
(37)	HISTORICAL SIGNIFICANCE - No significance	5

CONDITION

(58)	DECK	6
(59)	SUPERSTRUCTURE	6
(60)	SUBSTRUCTURE	7
(61)	CHANNEL AND CHANNEL PROTECTION	N
(62)	CULVERTS	N

LOAD RATING AND POSTING

(31)	DESIGN LOAD - HS 20	5
(63)	OPER RATING METHOD - Ld Factor (LFR) tons HS20	1
(64)	OPERATING RATING	65 T
(65)	INV RATING METHOD - Ld Factor (LFR) tons HS20	1
(66)	INVENTORY RATING	38 T
(70)	BRIDGE POSTING - Equal or above legal loads	5
(41)	STRUCT OPEN, POSTED, CLOSED - Open, no restrictions	A

APPRAISAL

(67)	STRUCTURAL EVALUATION	6
(68)	DECK GEOMETRY	8
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATERWAY ADEQUACY	N
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	1111
(113)	SCOUR CRITICAL BRIDGE	N

PROPOSED IMPROVEMENTS

(75)	TYPE OF WORK - Rehab By contract	351
(76)	LENGTH OF STRUCTURE IMPROVEMENT	244 ft
(94)	BRIDGE IMPROVEMENT COST	$10,151,000
(95)	ROADWAY IMPROVEMENT COST	$2,030,000
(96)	TOTAL PROJECT COST	$20,301,000
(97)	YEAR OF IMPROVEMENT COST ESTIMATE	2010
(114)	FUTURE ADT	165548
(115)	YEAR OF FUTURE ADT	2030

INSPECTIONS

(90)	INSPECTION DATE 08/13	(91) FREQUENCY 24 MO	
(92)	CRITICAL FEATURE INSPECTION:		(93) CFI DATE
	(A) FRACTURE CRIT DETAIL - NO -	Month	(A) __/__
	(B) UNDERWATER INSP - NO -	Month	(B) __/__
	(C) OTHER SPECIAL INSP - NO -	Month	(C) __/__